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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,536	02/12/2004	Ming-Jane Hsieh	3722-0178P	4138

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EXAMINER	
NATALINI, JEFF WILLIAM	
ART UNIT	**PAPER NUMBER**
2858	

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/776,536	HSIEH ET AL.	
	Examiner	Art Unit	
	Jeff Natalini	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-14 and 16-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-6 and 8-14* is/are allowed.

6)☒ Claim(s) *16-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/8/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shieh et al. (US Pub 2004/0108845) in view of Lee (US 5050214).

In regard to claim 16, Shieh et al. discloses detecting states of a plurality of jacks (abstract), each jack comprising a first switch having a first normally closed terminal and a first output terminal (fig 2 (terminal 1 or 2)), when there is no external terminal being inserted into a jack, the first normally closed terminal of the jack is coupled to the first output terminal of the jack (fig 1a – terminals 1 and 3 are coupled), and when there is an external terminal being inserted into the jack, the first normally closed terminal of the jack is not coupled to the first output terminal of the jack (fig 1b – terminal 3 is coupled to the plug inserted into the jack), the detector comprising: a plurality of bias resistors each coupled to one of the first output terminals, repectively (fig 4 and fig 5b, even though they don't show the full five terminal jack, it is seen in the previous figures (1a, 1b)/paragraph 40/claim 4 - that the five terminal jack is used, and therefore terminals 1 and 3 are coupled and the plurality of bias resistors (figs 4 or 5, R1-R4) are coupled to the first output terminal (3)); a control unit for determining the states of the plurality of jacks (para 46); wherein the first normally closed terminals are commonly coupled to a first node (and the control unit determines the states of the plurality of jacks according to

a voltage at the first node (para 46 and truth table (in drawings but not labeled as a figure)).

Shieh et al. lacks wherein a plurality of adjusting resistors through each of which one of the first normally closed terminals are coupled to the first node, respectively.

Lee discloses an audio connector jack that has an adjustable resistor through which one of the first normally closed terminals are coupled to the first node (fig 1-VR4 coupled to terminal b of jack, coupled to similar first node A).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Shieh et al. to incorporate an adjustable resistor that couples a normally closed terminal to the first node as taught by Lee in order to control the volume (col 2 line 23-28).

In regard to claim 17, Shieh et al. discloses an analog to digital converter for outputting a decoding signal according to the voltage at the first node and a decoder for receiving the decoding signal and decoding the signal into a corresponding state signal which indicates the state of each of the jacks (the ADC converts the output signal and then determines the status based on the signal (para 46), seen also in truth table).

In regard to claims 18 and 19, Shieh et al. discloses where the bias resistors have different resistances where the resistances are sequenced in a geometric progression having a common ratio of 2 (figs 3, 4, and 5, all have four resistors where they go from R, 2R, 4R, and 8R).

Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shieh et al. (US Pub 2004/0108845) in view of Chen et al. (US 6763087).

In regard to claim 20, Shieh et al. discloses detecting states of a plurality of jacks (abstract), each jack comprising a first switch having a first normally closed terminal and a first output terminal (fig 2 (terminal 1 or 2)), when there is no external terminal being inserted into a jack, the first normally closed terminal of the jack is coupled to the first output terminal of the jack (fig 1a – terminals 1 and 3 are coupled), and when there is an external terminal being inserted into the jack, the first normally closed terminal of the jack is not coupled to the first output terminal of the jack (fig 1b – terminal 3 is coupled to the plug inserted into the jack), the detector comprising: a plurality of bias resistors each coupled to one of the first output terminals, repectively (fig 4 and fig 5b, even though they don't show the full five terminal jack, it is seen in the previous figures (1a, 1b)/paragraph 40/claim 4 - that the five terminal jack is used, and therefore terminals 1 and 3 are coupled and the plurality of bias resistors (figs 4 or 5, R1-R4) are coupled to the first output terminal (3)); a control unit for determining the states of the plurality of jacks (para 46); wherein the first normally closed terminals are commonly coupled to a first node (and the control unit determines the states of the plurality of jacks according to a voltage at the first node (para 46 and truth table (in drawings but not labeled as a figure)).

Shieh et al. lacks wherein a filter capacitor is coupled to the first node with a filter resistor coupled between the first node and the normally closed terminal in each jack.

Chen et al. teaches testing the status of a communication signal having a jack connecting (abstract) wherein the jack is coupled to a filter that allows a certain band pass (fig 3 (63 or 64)) through, this type of filter is known to use a resistor and capacitor. It would have been obvious to one with ordinary skill in the art at the time the invention was made for Shieh et al. to incorporate a filter coupled to each jack as taught by Chen et al. in order to remove any noise that is in the communication signal (col 4 line 33-40).

In regard to claim 21, Shieh et al. discloses an analog to digital converter for outputting a decoding signal according to the voltage at the first node and a decoder for receiving the decoding signal and decoding the signal into a corresponding state signal which indicates the state of each of the jacks (the ADC converts the output signal and then determines the status based on the signal (para 46), seen also in truth table).

In regard to claims 22 and 23, Shieh et al. discloses where the bias resistors have different resistances where the resistances are sequenced in a geometric progression having a common ratio of 2 (figs 3, 4, and 5, all have four resistors where they go from R, 2R, 4R, and 8R).

Allowable Subject Matter

Claims 1-6 and 8-14 are allowed, as objected to claims 7 and 15 have been incorporated into independent claims 1 and 10.

Response to Arguments

Applicant's arguments filed 8/25/05 have been fully considered but they are not persuasive. In regard to claim 16, argues that the purpose of the adjusting resistor in the present invention is so that the resistances of the bias resistor and the adjusting

resistor of each jack to be adjusted with more flexibility, this specific feature is not in the claim language and thus can not be considered for allowability. Also argued is that there is no suggestion to combine a volume adjusting resistor with a plug/unplug status detector, but it seems as though when the apparatus is detecting the status of a jack with a speaker (car speaker, headphones, microphone, speaker system) plugged into the jack, a volume control variable resistor would be useful to avoid blowing of the speakers or a loud noise in your ear as you wouldn't adjust the volume (or put the earphones in your ear) until the apparatus has indicated the jack is properly connected.

In regard to claim 20, applicant has argued that the filter in the present invention is a filter of the signal from the closed terminal when the external terminal is plugged in, but the filter in the invention is able to filter (remove noise from) the signal toward the jack or from the jack (col 4 line 33-40 and seen in figure 3 with the dual arrows). The argument of Chen being unanalogous is not convincing because Chen discloses a plug/unplug status detector of phone jacks, this would be in the scope of inventions to a detector for detecting states of a plurality of jacks.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Natalini whose telephone number is 571-272-2266. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeff Natalini

ANJAN DEB
PRIMARY EXAMINER